2017

Health Habits, Coping Behaviors, and Perceived Social Support in Primary Care Physicians as a Function of Level of Burnout

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HEALTH HABITS, COPING BEHAVIORS, AND PERCEIVED SOCIAL SUPPORT IN PRIMARY CARE PHYSICIANS AS A FUNCTION OF LEVEL OF BURNOUT

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Submitted in Partial Fulfillment of the Requirements for the

Degree of Doctor of Psychology

February 23, 2017

PHILADELPHIA COLLEGE OF OSTEOPATHIC MEDICINE
DEPARTMENT OF PSYCHOLOGY

Dissertation Approval

This is to certify that the thesis presented to us by Samantha A. Welsh

on the 23 day of February, 2017, in partial fulfillment of the requirements for the degree of Doctor of Psychology, has been examined and is acceptable in both scholarship and literary quality.

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Acknowledgements

First, I would like to extend my deepest thanks and appreciation to Dr. DiTomasso, the Chair of my dissertation committee. Without Dr. DiTomasso's help, I would still be in Research III, trying to come up with a viable topic. A special thanks to Dr. Becker for his medical knowledge and assistance throughout this process, and thanks to Dr. Poteau for all of his help as well.

I would also like to extend a special thanks to Lauren at SERMO and the entire SERMO community for their help in recruiting participants for this study.

I would like to thank my grandparents for supporting me on my journey in obtaining my doctoral degree. Without their assistance, I would be taking the bus to class and borrowing all of my textbooks from the library. I would also like to thank them for all of the prayers and words of encouragement.

I would like to extend my deepest thanks to my mother, who single-handedly raised me. Thank you, Mom, for listening to me constantly complain about how I was never going to finish my dissertation and giving me the reassurance that I would in fact complete it, graduate, and become the doctor that I was destined to be. Also thank you for proofreading all my papers even though I know it was an extremely painful process.

Last, I would like to dedicate my dissertation to my brother Albert Welsh, who passed away only a month after I defended my dissertation. He was a kind and gentle soul who I know will be watching over me in my future endeavors.

Abstract

Primary care physicians (PCPs) are vital to the healthcare of our nation and serve as a critical point of entry into the healthcare system. PCPs must successfully balance competing demands; however, balancing all of these demands can lead PCPs to experience symptoms of burnout. Physician burnout is a serious problem among physicians and can have a significant impact on the medical community. Burnout threatens not only the health of physicians, but also the healthcare received by patients. Due to the profound effects that burnout can potentially have on physicians and on the care that they deliver to their patients, it is critical to understand the factors that may differentiate physicians experiencing varying levels of burnout. In order examine burnout in the PCP community, a cross-sectional survey was conducted which analyzed the relationship between varying levels of burnout (low, medium, high) and perceived social support, coping mechanisms, and wellness habits. Participants in the study voluntarily completed self-report questionnaires and a number of demographic questions. After analyzing the data, the results revealed that the male PCPs in this study scored significantly higher on the personal accomplishment domain, compared with their female PCP counterparts. The findings also revealed that PCPs who reported experiencing high levels of burnout also reported engaging in fewer positive health habits and those PCPs who reported higher perceived level of social support also reported engaging in more healthy behaviors. Finding a link between health habits, burnout, and perceived social support is a step toward having a better overall understanding of the complexness of burnout in the PCP community.

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Chapter 1

Statement of the Problem

Primary care physicians (PCPs), who are vital to the healthcare of our nation, serve as a critical point of entry into the healthcare system. PCPs see an average of 19 patients per day, which amounts to seeing 3,990 patients per year if PCPs work only 210 days (Merritt Hawkins, 2014). Thus, when patients are symptomatic, the PCP is most often the first person sought out for assistance.

During a typical day in the office, PCPs must successfully balance competing demands. These stressful demands include the need to handle emergent versus non-emergent problems; treat large volumes of patients with differentiated as well as undifferentiated problems; confront frequently overwhelming, limited time constraints; diagnose and treat a large variety of potentially acute versus chronic conditions; handle stressors; manage demands, including difficult patients, and deal with the ever-changing business aspects of clinical practice. PCPs report working an average of 52 hours per week and of that time, 11.3 hours are devoted to non-clinical paper work (Merritt Hawkins, 2014). Because of the stressful demands that PCPs experience, 35% report feeling overextended and overworked (Merritt Hawkins, 2014).

Difficulties in coping with these stressors have the potential to undermine the health and well-being of physicians. Many physicians do not have physicians of their own and generally treat themselves when they are ill (Feller & Hatch, 2004). In addition, physicians are much more likely to work when they are ill, which would suggest that physicians may not be able to recover properly from their illnesses due to the high

demands of their jobs (Feller & Hatch, 2004). The health of physicians is of vital importance not only for physicians' personal health, but also for the health and care of their patients. Physician wellness is directly tied to the delivery of care provided to patients; for example, physicians' poor health has been tied to a number of medical errors (Wallace, Lemaire, & Ghali, 2009). As a result, the stressful demands that PCPs encounter, affect not only their physical health and the care of patients, but can also affect a PCP's overall well-being.

When physicians are overwhelmed with unrelenting demands, they can experience a great deal of stress. In fact, 42.5% of family physicians reported experiencing high levels of stress (Lee, Stewart, & Brown, 2008). Unfortunately, high levels of stress and unrelenting demands that physicians frequently endure can often lead to symptoms of burnout (Houkes, Winants, Twellaar, & Verdonk, 2011). In a study conducted on a sample of general practitioners, 20% endorsed symptoms of burnout (Houkes et al., 2011).

According to Dyrbye et al., (2008), approximately 50% of US medical students reported experiencing burnout symptoms and of those students, approximately 11% reported experiencing suicidal ideations (Dyrbye et al., 2008). If medical students are experiencing symptoms of burnout, even before becoming physicians, it would suggest that they may be at risk for burnout during training, which could make them even more susceptible to burnout after they become practicing physicians.

Burnout consists of three major domains: personal accomplishment, depersonalization, and emotional exhaustion (Jennings, 2009). High levels of personal

accomplishment, along with low levels of depersonalization and emotional exhaustion can be fundamental in providing individuals with a sense of pride and meaning in their lives. As a result, when personal accomplishment is weakened and emotional exhaustion and depersonalization are strengthened, individuals may experience symptoms of burnout. Gundersen (2001) found that the symptoms of physician burnout consist of irritability, exhaustion, inability to concentrate, fatigue, insomnia, depression, anxiety, and a possible increase in substance use. These symptoms can potentially have a profound effect on physicians because approximately 8-12% of physicians develop a substance-related disorder as a result of burnout (Gundersen, 2001). It is believed that male physicians generally experience higher levels of depersonalization, whereas female physicians experience higher levels of emotional exhaustion, which uniquely fuel the symptoms of burnout across genders (Houkes et al., 2011).

Burnout can have an impact on the medical community. Lyndon (2014) found that approximately 300-400 residents commit suicide each year (Lyndon, 2014). Therefore, it is extremely important to understand burnout and those factors that distinguish physicians who vary in levels of burnout. Understanding these differences may help to identify physicians who are at risk for burnout and identify potential treatment interventions to reduce burnout in the physician population. Research has found that when physicians were able to utilize strategies to deal with their stress, their burnout symptoms were greatly reduced, which suggests that physicians are interested in learning about ways to reduce their levels of burnout (Lee et al., 2008). It was also found that when PCPs attended continuing medical education (CME) symposiums concerned

with topics on the effects of job satisfaction, burnout and job stress, their levels of job satisfaction increased and job stress decreased (Kushnir, Cohen, & Kitai, 2000).

In sum, physician burnout is a serious problem among physicians, and it is a problem with critical implications. Burnout threatens not only the health of physicians but also the healthcare received by patients. Understanding and preventing burnout is a priority in protecting the health and wellness of the primary care workforce in this country.

Purpose of the Study

Due to the profound effects that burnout can potentially have on physicians and on the care that they deliver to their patients, it is critical to understand the factors that may differentiate physicians experiencing varying levels of burnout. Physicians who display either low, medium or high levels of emotional exhaustion, depersonalization, and personal accomplishment (Maslach, & Jackson, 1981) may demonstrate differences in behaviors related to maintaining physical well-being, the levels of available interpersonal support they receive, and their use of coping mechanisms for promoting self-care. The ways in which these three groups may differ have important implications for preventing and addressing burnout in PCPs. The findings may potentially identify and pinpoint important targets for intervention that have the advantage of reducing burnout in this population.

The purpose of this study, then, is to investigate how PCPs, who vary in levels of emotional exhaustion, depersonalization, and personal accomplishment (low, medium, or high), as measured by the Maslach Burnout Inventory (Maslach, Jackson, & Leiter,

1996), differ in the following: adherence to promoting their own well-being (as measured by the Health Adherence Behavior Inventory- Short form; DiTomasso, 2016); perceived levels of social support (as measured by the Multidimensional Scale of Perceived Social Support; Zimet, Dahlem, Zimet, & Farley, 1988), and utilization of positive coping mechanisms to handle distress (as measured by the Ways of Coping Questionnaire; Folkman & Lazarus, 1985).

Research Question

1. How do primary care physicians who vary on levels of burnout (low vs medium vs high) differ on physical well-being, social support, and coping mechanisms?

Hypotheses

1. H_1: PCPs who have obtained or who have experienced a high level of burnout, as measured by the Maslach Burnout Inventory (MBI; Maslach et al., 1996), will have poorer physical well-being, as measured by the Health Adherence Behavior Inventory (HABIT-Short Form; DiTomasso, 2016), experience lower levels of perceived social support, as measured by the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1998), and implement fewer coping mechanisms, as measured by Ways of Coping Questionnaire (WCQ; Folkman & Lazarus, 1985), compared with individuals who obtain a medium level of burnout. In addition, PCPs who have obtained or who have experienced a medium level of burnout, as measured by the MBI (Maslach et al., 1996), will have poorer physical well-being, as measured by the HABIT-Short Form (DiTomasso, 2016), experience lower levels of perceived social support, as measured by the MSPSS

(Zimet et al., 1998), and implement fewer coping mechanisms, as measured by the WCQ (Folkman & Lazarus, 1985), compared with individuals who obtain a low level of burnout.

2. H_2: Male physicians in this study will experience higher levels of depersonalization, but female physicians in this study will experience higher levels of emotional exhaustion, based on the information found in the literature (Houkes et al., 2011).

Chapter 2

Introduction

Because PCPs see thousands of patients each year and are tasked with managing patients' health, along with various other demands of their profession, it is no surprise that a large portion of PCPs feel stressed and overwhelmed with their professional work responsibilities. When PCPs are stressed at work, that strain can carry over into their personal lives and impact their health, their coping abilities, and their social interactions. The following review will discuss the theoretical origins and process of stress and work strain, the impact that this stress can have on PCPs, and psychosocial variables that show promising support for combatting work strain for PCPs.

Burnout

The concept of burnout has been studied for over 35 years. As a result, numerous definitions of 'burnout' have emerged; however, all definitions agree that burnout is a work-related condition that inhibits work performance and efficiency due to negative behaviors and attitudes (Wright & Cropanzano, 1998; Halbesleben & Buckley, 2004; Maslach & Jackson, 1986). It can occur in individuals who do not possess a psychopathological condition, and includes physical, mental, and behavioral symptoms (Maslach & Jackson, 1986). The most commonly applied definition, developed by Maslach and Jackson (1986), defines 'burnout' as a syndrome that occurs most often in individuals who work with people and encompasses three main components: emotional exhaustion, depersonalization, and personal accomplishment. In addition, the researchers note that 'burnout' contributes to a variety of issues such as: absenteeism, insomnia,

reduced quality of care in service providers, job turnover, physical exhaustion, low morale, relationship and family problems, and an increase in substance use (Maslach & Jackson, 1986). With the negative impact that burnout can have on individuals, it is important to examine each individual domain of burnout.

Factors Associated with Burnout.

As the aforementioned description of burnout has illustrated, burnout can have profound effects on individuals. The following three domains of burnout: emotional exhaustion, depersonalization, and personal accomplishment will be discussed, including how each of the domains contributes to the overall syndrome of burnout.

Emotional Exhaustion.

Emotional exhaustion is considered the most important and widely studied component of the three factors associated with burnout, and is characterized by the depletion both of emotional and of physical resources (Maslach, 1982). An individual not experiencing emotional exhaustion can experience work-related demands, but with adequate resources, can implement adaptive coping mechanisms to overcome the effects of emotional exhaustion (Wright & Cropanzano, 1998). However, when an individual experiences significant work-related demands over time, an individual's resources become depleted, leaving him or her emotionally exhausted and unable to implement adaptive coping mechanisms (Halbesleben & Buckley, 2004). Individuals experiencing emotional exhaustion not only feel physically and emotionally tired, but they also feel constantly drained due to overextension at work (Wright & Cropanzano, 1998). In addition, emotional exhaustion often invokes a sense of helplessness and powerlessness,

leaving the individual disengaged from his or her job and with a decreased sense of self-efficacy (Halbesleben & Buckley, 2004).

Depersonalization.

As a response to the impact of emotional exhaustion, depersonalization can be characterized by an interpersonal disengagement of an individual from his or her job, which often manifests as a blunted, uncaring demeanor (Maslach, 1982). Depersonalization can be thought of as the reservoir of resources, or lack thereof, that are used when responding to emotional exhaustion. When suffering from emotional exhaustion, personal and social resources are allocated to combat the effects of emotional exhaustion; however, over time, the depletion of resources leaves an individual feeling helpless, powerless, and unable to implement adaptive coping mechanisms. As a result, the individual often dissociates from his or her workplace and workplace responsibilities. Therefore, depersonalization not only affects the individual negatively, but it also ultimately affects coworkers negatively, his or her work performance, and his or her patients (Halbesleben & Buckley, 2004).

Personal Accomplishment.

Personal accomplishment is the last domain associated with burnout and is characterized by an individual's evaluation of the self (Cropanzano, Rupp, & Byrne, 2003). As stated before, when an individual implements coping mechanisms in order to combat the negative impact of emotional exhaustion, self-efficacy increases and leaves the individual with a positive self-evaluation. However, in the case of burnout, when individuals are unable to implement adaptive coping mechanisms to decrease the effects

of emotional exhaustion, the individual is left feeling emotionally and physically drained and with a negative self-evaluation, or decreased sense of personal accomplishment. This negative self-evaluation results in a devalued sense of job performance and a constant comparison of an individual with his or her prior level of performance (Halbesleben & Buckley, 2004). As the aforementioned literature illustrates, the concept of burnout hinges on resources and on an individual's ability to utilize these resources, which will be discussed in further detail in the next section.

Primary Care Physicians

The label 'primary care physician' encompasses those who practice as obstetricians/gynecologists, as well as those who are pediatric, internal medicine, and family medicine physicians. Because Americans make approximately 2.7 visits per year to their physician, PCPs can see thousands of patients each year (Long et al., 1996). In addition, PCPs are tasked with a variety of other work demands, including: complying with government regulations and dealing with the business aspects of practicing medicine (Shanafelt, Sloan, & Habermann, 2003). As a result of the sizeable number of patients that physicians see, which is in addition to their other various work demands, approximately half of physicians rate their jobs as extremely stressful (Henry, 2004). Sullivan and Buske (1998) found that 62% of physicians rated their workload as too heavy, and 55% reported family and personal life interference due to their profession (Sullivan & Buske, 1998).

Because level of burnout can predict career satisfaction, it is important to examine career satisfaction among PCPs in order to have better insight into the factors that

contribute to burnout (Keeton, Fenner, Johnson, & Hayward, 2007). Due to the considerable work demands with which PCPs are tasked, it is not surprising that many physicians would be dissatisfied with their jobs. In fact, approximately 32% of physicians in a study conducted by Williams et al., (2002) reported being somewhat or very dissatisfied with their jobs (Williams et al., 2002). In light of this information, it is important to examine the factors that contribute to career dissatisfaction in physicians because of the link between burnout and career satisfaction (Keeton et al., 2007).

In an analysis examining 24 different studies from around the world, researchers found numerous factors that contribute to physician job dissatisfaction; these include: having little free time, working too many hours, too much paperwork, high practice demands, low salary, practicing solo or with three or fewer practitioners, time pressures, bureaucracy, suboptimal work environments, and constant changes within the healthcare system (Van Ham, Verhoeven, Groenier, Groothoff, & De Haan, 2006). These factors are accompanied by more complex care responsibilities in treating patients, especially because patients are becoming more outspoken and critical of their care; this is often due to patients researching the Internet prior to seeing their doctors (Dyer, 1999).

When physicians are dissatisfied with their jobs, they are less committed to their practice settings, often resulting in high turnover rates (Gabbard, Menninger, & Coyne, 1987). Not only do high turnover rates increase cost of care, high turnover rates are additionally detrimental to patient continuity and care (Gabbard & Menninger, 1989; Glick & Borus, 1984). Also, when physicians are dissatisfied with their careers and are less committed to their practice settings, maladaptive behaviors may be used to cope with their high levels of stress and dissatisfaction (American Medical Association, 1973). A

study of family physicians, obstetricians/gynecologists, and surgeons found that 24% of the physicians reported drinking some kind of alcohol every day and 15% reported that they were smokers (Wells, Lewis, Leake, & Ware, 1984). When physicians are not satisfied with their work environments and careers, they are forced to expend more and more personal and social resources to keep up with the demands of their jobs, making them more susceptible to burnout.

Because PCPs are faced with considerable work demands, in addition to providing care for patients, and balancing their family and personal lives, 30%-40% of physicians report experiencing burnout (Wallace et al., 2009). As a result of their taxing job roles and of balancing their personal and family lives, considerable resources are being expended on a day-to-day basis, putting physicians at a greater risk for developing symptoms of burnout. The following section will discuss the impact of burnout on physicians' health, work performances, and personal lives.

Effects of Burnout among Physicians

Because PCPs are the first medical professionals that patients seek when medical issues arise (Shanafelt et al., 2012), they see a high volume of patients, making PCP's highly susceptible to burnout (Lee et al., 2008). Research found that 45.8% of US physicians suffer from at least one symptom of burnout (Shanafelt et al., 2012). With new health laws requiring all Americans to obtain health insurance, an increased number of Americans now seek medical help from PCPs. Furthermore, older PCPs are retiring and fewer graduating physicians are becoming PCPs (Dill & Salsberg, 2008). With the rising number of patients that PCPs are seeing and their susceptibility to burnout, patient

care is also being impacted (Lee et al., 2008; Wallace et al., 2009; Ratanawongsa et al., 2008; Halbesleben & Rathert, 2008).

PCP's symptoms of burnout significantly impact their patients (Wallace et al., 2009; Ratanawongsa et al., 2008; Halbesleben & Rathert, 2008). Physicians suffering from burnout make more medical errors, have poorer patient relationships, are less empathic, have lower patient satisfaction, and have a stronger desire to retire early (Wallace et al., 2009; Ratanawongsa et al., 2008; Halbesleben & Rathert, 2008). When PCPs experience high levels of depersonalization, they often try to distance themselves from their patients; this inversely affects patient satisfaction, and ultimately patient outcomes (Halbesleben & Rathert, 2008; Bakker, Schaufeli, Sixma, Bosveld, & Van Dierendonck, 2000).

Unfortunately, the impact of burnout affects not only a physician's relationships, work environment, family obligations, career satisfaction, and patient care, but it can also impact a physician's decision to live. Each year 300-400 physicians commit suicide (Lyndon, 2014). Female physician suicide rates are 2.3 times higher than the general population, and male physician suicide rates are 1.4 times that of female physicians, making suicide a major cause of early death in physicians (Schernhammer & Colditz, 2004). Although many would think that burnout would have a higher rate in older physicians, Ramirez et al., (1995) found that younger physicians experience burnout twofold, compared with older physicians (Ramirez et al., 1995). In fact, 20% of practicing PCPs report experiencing burnout, but are still working and caring for patients (Houkes et al., 2011).

Even though burnout affects both genders of physicians, male and female physicians are generally affected differently by burnout. When examining the three domains of burnout, male physicians generally endorse greater symptoms of depersonalization because they feel overburdened by their workload (Houkes et al., 2011). Female physicians, on the other hand, generally endorse more symptoms of emotional exhaustion due to work-home conflicts (Houkes, et al., 2011**;** Langballe, Innstrand, Aasland & Falkum, 2011). In addition, research has found that female physicians are 1.6 times more likely to experience burnout, compared with male physicians due to the balance of professional, personal, and family obligations (McMurray et al., 2000).

Burnout impacts PCP's personal and professional lives; this includes areas such as their health habits and self-care practices. Approximately 17% of physicians reported experiencing sleep disturbances, and 5% reported overeating (Sime, Quick, Saleh, & Martin, 2007); 27.4% of female physicians and 19.4% of male physicians were identified as obese (Alsuwaidia et al., 2013). Furthermore, because of the high levels of stress that PCPs experience on a daily basis, physicians were found to be at a higher risk for developing cardiovascular disease (Alsuwaidia et al., 2013).

The effects of burnout can significantly impact the lives of PCPs, and can also affect the individuals with whom they interact on a daily basis. Burnout is contagious; therefore, it can affect PCP's colleagues and family members, making them susceptible to burnout as well (Sime et al., 2007). In fact, 25% of physicians reported frequent episodes of irritability when interacting with their significant others and with family members,

resulting in family conflict (Bakker, Schaufeli, Sixma, & Bosveld, 2001; Sime et al., 2007).

PCPs can experience great difficulty in trying to balance both their personal and their professional lives. With the taxing demands that they face, their professional lives can sometimes spill over into their personal lives. Early warning signs of burnout are often exhibited by disagreements with staff and with work-related commitment issues that interfere with family (Sime et al., 2007). Because burnout does not occur overnight, it is essential for physicians to recognize the warning signs of burnout, such as irritability, job dissatisfaction, family problems, and health-related issues. However, physicians are generally not good at playing the role of the patient; therefore, they may not feel as though their symptoms warrant attention by a professional (Sime et al., 2007). In light of the extensive literature supporting the damaging impact of burnout on physicians, it is vital to examine three psychosocial factors: social support, coping mechanisms, and health habits. The literature has found that these factors have positive implications for addressing stress and could therefore aid in reducing levels of burnout.

Psychosocial Variables

Social Support.

Social support is defined as an interaction between two individuals, during which the recipient of the support perceives care and mutual understanding of feelings, providing the recipient with an enhanced sense of well-being (Cobb, 1976; Shumaker & Brownell, 1984). Not only can social support enhance an individual's sense of well-being, but it can additionally protect against a variety of life stresses and health-related

issues (Cobb, 1976). A study citing the buffering hypothesis, which postulates that social support can act as a buffer from stressful situations, found that perceived social support not only helped to act as a buffer during stressful events, but also that individuals who were part of a large network with perceived social support helped to make these individuals less susceptible to stressful events altogether (Cohen & Wills, 1985). The results from this study suggest that perceived social support can act as a buffer during stressful situations and also as a source of protection against future stress.

Research has found that, in addition to acting as a buffer when experiencing stress, social support also has a positive correlation with job productivity and satisfaction. In addition, social support was found to have a negative correlation with burnout (Baruch-Feldman et al., 2002). Research involving female social workers supports these results, specifically citing that social support from supervisors and significant others helped to neutralize the effects of burnout from work-related stress (Davis-Sacks et al., 1985).

When examining the effects of social support on the three individual domains of burnout (emotional exhaustion, depersonalization, and personal accomplishment), one study found that when work-related social supports were compared with non-work-related social supports, work-related social supports had a stronger association with emotional exhaustion, whereas non-work related social supports had a stronger association with personal accomplishment and depersonalization (Halbesleben, 2006). This study provides evidence for the importance both of work-related social supports and of non-work related social supports in combatting burnout. Work-related social supports

can significantly help compensate for taxing work demands, and non-work related social supports can be essential in boosting an individual's self-evaluation.

In a study conducted with medical students, researchers found that medical students who were single experienced more stress, compared with medical students who were married, suggesting that social support from a significant other helps reduce stress (Coombs & Fawzy, 1982). When examining social supports in physicians, McMurray et al., (2002) found that female physicians with children who felt social support from their significant others, spouses, or colleagues were 40% less likely to experience burnout (McMurray et al., 2000). The result from this study suggests that not only does having a significant other help in reducing emotional strain, but also that the perception of social support is essential. These studies provide compelling evidence for the positive benefits both of non-work related and of work-related social supports in combatting burnout in physicians.

Due to the positive effects of social support not only in helping to reduce stress, but also in some cases to defend against stressful events altogether, it is evident that social support is vital to an individual's sense of well-being. This would suggest that physicians who perceive a strong presence of social support from colleagues, friends, and family would be better equipped to handle stressful situations and subsequently experience a decreased level of burnout. With strong support for the positive effects of socials support, other psychosocial variables should be examined in order to assess more ways to potentially decrease levels of burnout.

Coping Mechanisms.

Coping is defined as a tool that aids in alleviating or in helping an individual tolerate stress by utilizing cognitive and behavioral strategies (Folkman & Lazarus, 1980). Various studies have demonstrated the crucial role that coping strategies play in reducing stress, especially when it comes to work-related stress (Shapiro, Astin, Bishop, & Cordova, 2005; Lemaire & Wallace, 2010; Fortney, Luchterhand, Zakletskaia, Zgierska & Rakel, 2013; Beach et al., 2013; Shin et al., 2014; Williams et al., 2002). These findings suggest that it is important to examine the effects that coping strategies have both on stress and on subsequent burnout.

Research found that individuals who coped with stress in an active way, such as doing something in order to reduce their stress levels, were less susceptible to burnout, as opposed to individuals who coped with stress in a more passive way, such as trying not to think about the stress (Maslach, Schaufeli, & Leiter, 2001). Shin et al., (2014) found that problem-focused coping, which involves doing something in order to attempt to solve the problem, had a relationship with all three domains of burnout. An attempt to do something in order to deal with the stressful event decreased symptoms of burnout. In addition, emotion-focused coping, which involves attempting to express emotions and understand the stressful event, increased the symptoms of burnout (Shin et al., 2014). Although this may seem counterintuitive from a clinical standpoint, this research suggests that by actively trying to problem-solve the situation, an individual feels that he or she has more control over the situation, giving a sense of control and power over the situation. Conversely, passively attempting to understand the feelings related to the stressful event may offer more introspection; unfortunately, no solution to the problem

has been achieved and the individual is left understanding only the reason why he or she is feeling stressed. This suggests that when it comes to dealing with stressful situations, the ways in which individuals cope with stress is important.

Lemaire and Wallace (2010) examined different coping strategies that physicians use when dealing with work-related stress. The researchers found themes for coping strategies that physicians use at work such as: talking with a colleague, taking a break, continuing to work despite the stress, and using humor. They additionally found themes in coping strategies that physicians use after work including: interacting with family, physical activity, and spending time alone quietly. When examining the relationship between the symptoms of burnout and utilization of coping strategies at work, the researchers found that strategies such as pretending that nothing happened, concentrating on the next task, and not discussing stress, were positively correlated with emotional exhaustion. In addition, utilization of coping strategies such as taking a break, were negatively correlated with emotional exhaustion (Lemaire & Wallace, 2010). This suggests that physicians who employed more problem-focused coping received more stress relieving benefits, compared with physicians who did not attempt to use a coping strategy and instead continued to work despite their stress.

Employing coping strategies during times of stress appears to be beneficial; therefore, examining the coping mechanisms that provide the greatest reduction in stress for physicians is crucial. Shapiro et al., (2005) conducted an 8-week mindfulness program for health care professionals in order to examine mindfulness as a coping mechanism. The researchers found that the mindfulness program was effective in helping to reduce stress levels in health care professionals. In addition, when participants

were examined posttreatment, they found that the mindfulness program had the additional benefit of helping to increase self-compassion and quality of life for the health care professionals involved in the program (Shapiro et al., 2005). Another study examining mindfulness found similar, positive results. Fortney et al., (2013) examined an abbreviated mindfulness intervention for PCPs and found that the intervention was successful in reducing the symptoms of burnout, stress, anxiety, and depression. In addition, these benefits were seen both at 3 and 9 month follow-up intervals, suggesting that the physicians internalized the mindfulness intervention and successfully utilized it as a tool to combat stress (Fortney et al., 2013).

Mindfulness not only has a positive impact on a physician's personal mental health, but mindfulness also has an impact on the physician's patients. Beach et al., (2013) conducted a study in which physicians rated their personal levels of mindfulness. The researchers found that those individuals who had high self-ratings of mindfulness had better rapport with their patients, were more likely to discuss psychosocial issues pertaining to the patient, and imparted a more positive emotional tone. In turn, their patients rated these physicians as more effective communicators and were, overall, more satisfied with their healthcare experiences (Beach et al., 2013).

Because of the positive effects of problem-focused coping and mindfulness practices on reduction of burnout symptoms, it is important to explore more coping mechanisms that physicians may be able to employ to cope with their daily levels of stress. In addition to adaptive coping mechanisms, physician health habits should be examined in order to have a more comprehensive understanding of the psychosocial factors that may help combat the symptoms of burnout.

Health Habits.

The aforementioned studies have provided strong evidence that the health and well-being of physicians is crucial to the care that is given to their patients and to their patients' subsequent outcomes. This suggests that the health of physicians is extremely important in order for patients to obtain optimal care.

Perceiving significant stress at work can have a damaging impact on physicians' physical and mental health. Some physicians may even develop a subsequent substance-related disorder to deal with the stress and burden of their careers (Williams et al., 2002; Gunderson, 2001; Schernhammer, 2005). In addition, due to the long hours and heavy work demands that physicians are subjected to, eating at regularly scheduled intervals may be problematic. If physicians have irregular eating habits and do not have enough exercise, they can develop health-related issues such as high cholesterol, weight related issues, and elevated blood pressure (Duruisseau & Schunke, 2007). Irregular eating habits can also impact a physician's cognitive functioning. Lemaire et al., (2010) found that obtaining adequate nutrition is vital for physicians to maintain their cognition and care for their patients effectively throughout the day (Lemaire et al., 2010). Therefore, proper eating affects both the physicians and their patients.

As previously stated, physicians tend to avoid playing the role of the patient. In fact, researchers found that 76% of physicians endorsed self-treatment and 61% reported self-prescription of medication, which could potentially undermine the health of physicians (Montgomery, Bradley, Rochfort, & Panagopoulou, 2011). Uallachain (2007) found that 30% of PCPs had not visited a physician in 5 years and 49% endorsed

neglecting their own health. In addition, 65% of physicians felt that they were unable to take time away from work when they were sick (Uallachain, 2007). Unfortunately, physicians not only experience a significant amount of stress on a daily basis, but also this stress is so pervasive they feel that they cannot take time away from work to recover; as a result, they begin to treat themselves.

Fortunately, there are practicing physicians who do recognize the importance of maintaining their own personal health to provide the best treatment possible to their patients. Linn, Cope, Leake, and Yager, (1986) found that physicians who reorganized work activities had higher levels of job satisfaction. In addition, physicians who experienced fewer work-home conflicts, endorsed less job stress, and were less anxious, tended to obtain higher health habit scores. The researchers also found that physicians who employed positive coping techniques had greater job satisfaction, compared with those physicians who employed negative coping techniques (Linn et al., 1986).

Because of the profound effects of burnout not only on the PCPs, but also on their colleagues, families and patients, it is essential to examine how variables related to burnout specifically affect PCPs. With the vast amount of literature suggesting the positive effects of social support, coping mechanisms, and good health habits on burnout, the following study will examine how these three variables impact the PCP's level of burnout.

Chapter 3

Research Design

In order to analyze the relationship between varying levels of burnout (low, medium, high) and perceived social support, coping mechanisms, and wellness habits, a cross-sectional, survey study was planned. Participants in the study voluntarily completed self-report questionnaires, which included the Maslach Burnout Inventory (MBI; Maslach et al., 1996), the Ways of Coping Questionnaire (WCQ; Folkman & Lazarus, 1985), the Health Adherence Behavior Inventory-Short form (HABIT-Short-form; DiTomasso, 2016), the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988) and a number of demographic questions. The online survey was developed using Survey Monkey and was posted to social media sites such as Linked In, Facebook, Craig's List, ResearchMatch.org, and SERMO, which is a social networking site for physicians, seeking voluntary participation.

Participants

The participants in this study were male and female PCPs; these included: pediatricians, obstetricians/gynecologists, family medicine physicians, and internal medicine physicians. In order for participants to meet the inclusion criteria for the study, they needed to be a PCP between the ages of 27 and 87, not possess a dual specialty, not received fellowship training, had a valid medical license, and must have practiced medicine in their respective fields for a minimum of 1 year, post completion of their residencies. Individuals were excluded from the study if they were PCPs but not between the ages of 27 and 87, possessed a dual specialty, received fellowship training, did not

have valid medical licenses, and had not practiced medicine in their respective fields for a minimum of 1 year post completion of their residencies.

Measures

The measures that were administered in this study were the MBI (Maslach et al., 1996), the WCQ (Folkman & Lazarus, 1985), the HABIT-Short form (DiTomasso, 2016), and the MSPSS (Zimet et al., 1988).

The Maslach Burnout Inventory–Human Services Survey.

Description of the Maslach Burnout Inventory.

The Maslach Burnout Inventory-Human Services Survey (MBI-HSS; also known as simply the Maslach Burnout Inventory [MBI]), is a 22 item, self-report measure that assesses three major domains of burnout among individuals who work in the human services field; these domains include emotional exhaustion, depersonalization, and personal accomplishment. There are five items that measure an individual's level of depersonalization, eight items that measure an individual's level of personal accomplishment, and nine items that measure an individual's level of emotional exhaustion (Maslach et al., 1996).

Psychometrics of the Maslach Burnout Inventory.

Participants answered each question on a 7-point Likert scale which corresponds to how often they endorse the question, ranging from 0 ("never"), 1 ("few times a year or less"), 2 ("once a month or less"), 3 ("a few times a month"), 4 ("once a week"), 5 ("a few times a week"), to 6 ("every day"). In order for participants to obtain an overall

burnout score, the three individual domains: emotional exhaustion (EE), depersonalization (DP), and personal accomplishment (PA) are calculated individually. The individual domain scores are then examined based on scores and separated into the three categories of burnout: high degree of burnout, an average degree of burnout, or a low degree of burnout. A high degree of burnout is categorized by high levels of emotional exhaustion (≥27), high levels of depersonalization (≥13), and low levels of personal accomplishment (≤31). An average degree of burnout is categorized by medium levels of emotional exhaustion (17 to 26), medium levels of depersonalization (7 to 12), and medium levels of personal accomplishment (32 to 38). A low degree of burnout is categorized by low levels of emotional exhaustion (≤16), low levels of depersonalization (≤6), and high levels of personal accomplishment (≥39) (Maslach et al., 1996).

In a sample of health service individuals (n = 1,316) a Cronbach's coefficient alpha revealed that the reliability coefficient for the EE domain was .90; the DE domain was .79, and the PA domain was .71. The MBI also revealed that the measure of "general job satisfaction" has a moderately negative correlation with EE ($r = -.23$, $p < .05$) and DE ($r = -.22$, $p < .02$), but a slightly positive correlation with PA ($r = .17$, $p < .06$). This means that as the measure of general job satisfaction increases, the domains of EE and DE decrease and the domain of PA increases. In addition, as the measure of general job satisfaction decreases, the domains of EE and DE increase and the domain of PA decreases (Maslach et al., 1996).

The Ways of Coping Questionnaire.

Description of the Ways of Coping Questionnaire.

The Ways of Coping Questionnaire (Folkman & Lazarus, 1985) is a 66 item, self-report measure that assesses eight different styles of coping. The WCQ contains six items relating to confrontive coping, six items relating to distancing, seven items relating to self-controlling, six items relating to seeking social support, four items relating to accepting responsibility, eight items relating to escape-avoidance, six items relating to planful problem-solving, and seven items relating to positive reappraisal (Folkman & Lazarus, 1985).

Psychometrics of the Ways of Coping Questionnaire.

Participants answer each question on a 4-point Likert scale which corresponds to how often they endorse the question, ranging from 0 (“not used”), 1 (“used somewhat”), 2 (“used quite a bit”), to 3 (“used a great deal”). The raw scores for each of the eight coping domains are totaled individually and divided by the number of items in each of the eight domains, resulting in response scores. After the response scores are calculated, they are totaled and referred to as the total response scores. The next step in calculating the scores for the WCQ is to take the response scores from each of the eight domains and divide them by the total response scores. The eight percentages that are left represent how often the participant endorses using each of the eight coping styles (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986).

In a sample of married couples, (n=75) a Cronbach alpha revealed the following alphas for each of the eight coping domains: .70 for confrontive coping, .61 for

distancing, .70 for self-controlling, .76 for seeking social support, .66 for accepting responsibility, .72 for escape-avoidance, .68 for well-planned problem-solving, and .79 for positive. The WCQ also revealed that individuals who endorsed higher levels of positive reappraisal and well-planned problem-solving coping styles achieved more satisfactory outcomes, whereas individuals who endorsed higher levels of distancing and confrontive coping styles achieved more unsatisfactory outcomes (Folkman et al., 1986).

The Health Adherence Behavior Inventory-Short Form.

Description of the Health Adherence Behavior Inventory-Short Form.

The Health Adherence Behavior Inventory-Short form (HABIT-Short form; DiTomasso, 2016) is a 10 item, self-report measure used to assess different health-related behaviors in primary care settings (DiTomasso, 2016). The HABIT-Short form is an abbreviated version of the original Health Adherence Behavior Inventory (DiTomasso, 1997), which consisted of a 50 item, self-report measure.

Psychometrics of the Health Adherence Behavior Inventory.

Participants answer each dichotomous question as 1 (“true") and 0 (“false"), indicating whether or not they engage in that particular health behavior. The scores are totaled and reverse scored. Individuals who endorse participating in a higher number of positive health-related behaviors have a lower health risk (DiTomasso, 1997).

The HABIT was found to have a significant negative correlation to systolic blood pressure ($r(77) = -.177$), with individuals who were adherent to maintaining their health displaying lower systolic blood pressure results (Parke, 2004). The HABIT scale was

found to have good internal consistency with a Cronbach's coefficient alpha of .705. In addition, the HABIT was found to have a significant negative correlation at 0.01 (r (77) = -.437) when measured against an overall health risk score on a known and validated health risk assessment (DiTomasso, 1997; Parke, 2004).

The Multidimensional Scale of Perceived Social Support.

Description of the Multidimensional Scale of Perceived Social Support.

The Multidimensional Scale of Perceived Social Support (Zimet et al., 1988) is a 12 item, self-report measure used to assess perceived social support from three domains: family, friends, and significant others (Zimet et al., 1988).

Psychometrics of the Multidimensional Scale of Perceived Social Support.

Participants answer each question on a 7-point Likert scale which corresponds to how often they endorse the question, ranging from 1 ("very strongly disagree"), 2 ("strongly disagree), 3 ("mildly disagree"), 4 ("neutral"), 5 ("mildly agree"), 6 ("strongly agree"), to 7 ("very strongly agree"). Perception of social support scores ranging from 12 to 48 is considered low acuity, 49 to 68 as moderate acuity, and 69 to 84 as high acuity (Zimet et al., 1988).

In a sample of first and second year pediatric residents (n = 55), a Cronbach's coefficient alpha revealed that the reliability coefficient in the family domain was .83, .90 in the friends domain, and .98 in the significant other domain, with a total alpha of .90 (Zimet et al., 1988). The analysis revealed a statistical difference in the significant other domain (F (1, 46) = 16.50, $p < .001$) indicating that married residents perceived greater

support from a significant other; this is in comparison with residents who were single (Zimet et al., 1988).

Procedure

Subject Recruitment.

Participants for this study were recruited by posting a link on the following social media sites: Linked In, Facebook, Craig's List, ResearchMatch.org, and SERMO, which is a social networking site for physicians. After potential participants have clicked on the link posted on the social networking sites, participants were directed to an online survey which was created using Survey Monkey.

Subject Screening.

After being directed to the online survey, potential participants were told that the study was looking at job strain in primary care physicians. Potential participants were screened using six questions relating to the potential participant's medical license, specialty, physician type, age range, fellowship training, and residency training. After participants were screened as eligible, they could volunteer to complete eleven demographic related questions and then complete a total of 110 questions from the MBI (Maslach et al., 1996), WCQ (Folkman & Lazarus, 1985), HABIT-Short form (DiTomasso, 2016), and MSPSS (Zimet et al., 1988).

Data Analysis.

The data for this study took approximately two weeks to collect. After the survey was closed, all of the data were entered into the Statistical Program for the Social

Sciences (SPSS). The SPSS 23 software was used to perform the statistical analysis of the data.

Chapter 4

Results

The first part of the results section will highlight the demographic information such as age, gender, and race. The next section will present the differences among the physician population sampled, such as the type of primary care medicine that they practiced, the type of degree they earned, and the type of setting in which they practiced. The following section will discuss the specific findings of the study that are related to the two original hypotheses in this study. The final sections will focus on the factor analysis of the Maslach scale, its validity and reliability, and the additional analyses that were completed.

Demographic Information.

A total of 200 participants completed the screening questions in the survey. Of these 200 individuals, 60 participants met the inclusion criteria and their data were included in the data analysis (N=60). As shown in Table 1, the majority of the participants in the sample reported being between the ages of 57 and 67 (n=27).

Table 1

Overall Age Demographic Variables

Age	Frequency	Percent
27-34	1	1.7
35-45	5	8.3
46-56	20	33.3
57-67	27	45.0
68-78	7	11.7
Total	60	100.00

The gender of the participants was rather equally divided, with 53.3% (n=32) of participants identifying as male and 46.7% (n=28) of participants identifying as female. However, the racial breakdown of the participants in the sample was more disproportionate. As seen in Table 2, the majority of the participants in the sample identified as being Caucasian (n=47).

Table 2

Overall Racial Demographic Variables

Race	Frequency	Percent
Asian	4	6.7
African American	3	5.0
Caucasian	47	78.3
Hispanic	2	3.3
Other	4	6.7
Total	60	100.00

As shown in Table 3, when examining the sample from this study, the majority of the participants in the study identified as being family medicine physicians (n=30).

Table 3

Overall Type of Physician Variables

Type of Physician	Frequency	Percent
Pediatrician	8	13.3
Family Medicine Physician	30	50.0
Internal Medicine Physician	13	21.7
Obstetrician/Gynecologist	9	15.0
Total	60	100.00

When performing the statistical analysis for this study, it was found that 80% (n=48) of the participants reported earning their medical degrees from an MD program; 16.7% (n=10) reported earning their degrees from a DO program, and 3.3% (n=2) indicated earning their degrees from a combined MD/DO program. When asked about the type of setting in which they practiced, 36.7% (n=22) of the participants reported

working in a private practice setting and 30% (n=18) reported working in a group practice setting (see Table 4).

Table 4

Overall Practice Setting Demographic Variables

Practice Setting	Frequency	Percent
Hospital	7	11.7
Private Practice	22	36.7
Group Practice	18	30.0
Other	13	21.7
Total	60	100.00

Hypotheses.

When the original data analysis was considered, a comparison of individuals at different levels of burnout was planned. The first hypothesis in this study theorized, that based on the literature (Keeton et al., 2007; Wells et al., 1984; Wallace et al., 2009; Davis-Sacks et al., 1985; Shin et al., 2014; Duruisseau & Schunke, 2007), PCPs who endorsed experiencing high levels of burnout, would also report poorer physical health, experience lower levels of perceived social support, and implement fewer coping mechanisms, compared with PCPs who endorsed medium or low levels of burnout. In addition, PCPs who endorsed experiencing a medium level of burnout, would report poorer physical health, experience lower levels of perceived social support, and implement fewer coping mechanisms, compared with PCPs who endorsed a low level of burnout. However, for level of burnout for the 60 participants, only 1 participant indicated a low level of burnout (1.7%); 10 participants indicated a medium level of

burnout (16.7%), and 49 participants indicated a high level of burnout (81.7%). Due to the disproportionate number of participants in the three burnout categories, the first hypothesis in this study comparing the three levels of burnout was unable to be tested. As a result, additional statistical calculations were completed in order to examine any significant differences in the data set.

The second hypothesis in this study theorized, that based on the literature (Houkes, et al., 2011**;** Langballe, Innstrand, Aasland & Falkum, 2011), male physicians would experience higher levels of depersonalization, and female physicians would experience higher levels of emotional exhaustion. However, the results in this study did not support this hypothesis. First, a test was calculated in order to compare the total burnout scores for male and female PCPs. The results revealed that neither gender differed on their total burnout scores. As a result, a MANOVA was utilized in order to compare the genders on the three domains of burnout: emotional exhaustion, depersonalization, and personal accomplishment. The analysis revealed a significant Wilks' lambda (.867, $F(3, 56) = 2.862$, $p = .045$), which suggested a difference between the groups. When the three domains were compared by gender, the results revealed that the male PCPs in this study scored significantly higher on the personal accomplishment domain, compared with their female PCP counterparts (see Table 5).

Table 5

Descriptive Statistics for Gender on Each Level of Burnout (Emotional Exhaustion, Depersonalization, and Personal Accomplishment)

	Gender	Mean	Std. Deviation	N
Emotional Exhaustion	Male	4.8194	1.53435	32
	Female	4.8056	1.68254	28
	Total	4.8130	1.59139	60
Depersonalization	Male	3.6062	1.70274	32
	Female	3.6357	1.59356	28
	Total	3.6200	1.63881	60
Personal Accomplishment	Male	6.1797	.75931	32
	Female	5.6250	.95743	28
	Total	5.9208	.89459	60

Factor Analysis of MBI.

A higher order factor analysis of the MBI (Maslach et al., 1996) based on subscale scores, was completed to examine whether or not the three individual components of burnout (emotional exhaustion, depersonalization, and personal accomplishment) loaded on a single construct of an overall burnout score. Results indicated that for two of the scores (emotional exhaustion and depersonalization), the higher the scores, the greater the level of burnout. On the personal accomplishment scale, the lower the score, the higher the level of burnout. To make the scoring consistent across variables, this variable was reverse scored. A principal components variamax rotated analysis, using Kaiser's criterion, was conducted on these subscale scores. The subject to item ratio was 20:1. Each of the three components loaded highly onto one overall factor. Because there was only one component, the solution could not be rotated. The Kaiser-Meyer-Olkin (KMO) statistic was calculated and reflected the

appropriateness of using factor analyses for the data. When the scales share common factors, with KMO values ranging between 0 and 1, the values should be closer to 1. In the present case, the KMO value equaled .63, which Field (2010) described as mediocre. Bartlett's test of sphericity was significant (Approximate Chi Square = 62.78, Df= 3, p= .000), indicating that the correlations between the variables differed significantly from 0. None of the variables correlated with each other at levels that would suggest that multicollinearity would be a threat. The overall factor comprised three scores with very high factor loadings: Emotional Exhaustion (.86), Personal Accomplishment (.74) and Depersonalization (.91), which accounted for 70.84% of the variance.

Reliability Analysis.

A coefficient alpha for this higher order factor was calculated and found to be equal to .74, which is considered acceptable. The corrected item-total score correlations for Emotional Exhaustion, Depersonalization and Personal Accomplishment were equal to .66, .78, and .49 respectively.

Correlation of MBI Factors.

After the factor analysis was completed, a correlational analysis was conducted to examine the relationship between the factor identified as total burnout score and the HABIT-Short form (DiTomasso, 2016). The result yielded a significant negative correlation between these variables (r (60) = -.381). These results suggest that participants who indicated experiencing high levels of burnout also reported engaging in fewer positive health habits. Approximately, 14% of the variability in health habits was attributable to differences in burnout.

A Pearson Correlation analysis additionally revealed that the items on the HABIT-Short form (DiTomasso, 2016) positively correlated with the perceived social support scales on the MSPSS (Zimet et al., 1988). Perceived social support from significant others correlated ($r(60) = .78$, $p = 000$); family support correlated ($r(60) = .70$, $p = .000$), and friend support correlated ($r(60) = .86$, $p = -.000$) with total scores on HABIT-Short form (DiTomasso, 2016). Overall, 61% of the variability in the HABIT score was attributable to differences in social support from significant others; 49% was attributable to differences in social support from family, and 74% was attributable to differences in social support from friends. These results suggest that the greater amount of perceived social support that participants reported, the greater number of health behaviors they reported engaging in as well.

On the subscales of the Ways of Coping Questionnaire (Folkman & Lazarus, 1985), none of the subscale scores correlated with the HABIT-Short form (DiTomasso, 2016).

A series of regression analyses were conducted using the HABIT score as the criterion variable. In the first regression analysis, Burnout Total score served as the predictor and the HABIT-Short form score as the criterion (see Table 6). As shown in Table 7, the regression equation was significant.

Table 6

Model 1 Summary of the Predictor Variable (Burnout Total Score) to the Dependent Variable (HABIT)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.381	.145	.130	5.04023

Table 7

Overall Regression Analysis with Predictor Variable (Burnout Total Score) to the Dependent Variable (HABIT)

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	249.505	1	249.505	9.822	.003
Residual	1473.428	58	25.404		
Total	1722.933	59			

As shown in Table 8, burnout made a significant contribution to the prediction of the HABIT score.

Table 8

Coefficients of Predictor Variable (Burnout Total Score) to the Dependent Variable (HABIT)

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	T	Sig.
1 (Constant)	35.824	1.929		18.573	.000
Burnout Total Score	-.081	.026	-.381	-3.134	.003

The next regression analysis was a multiple regression and used the HABIT score as the criterion and the WCQ subscales, the MSPSS total score, and Burnout Total score as the predictors. This was done in order to examine whether or not engaging in coping mechanisms, perceived social support, and reported level of burnout predicted HABIT score. As shown in Table 9, the combination of predictors accounted for 29% of the variance. However, because the regression equation only approached significance; no further analysis was warranted (see Table 10).

Table 9

Model 1 Summary of the Predictor Variables (Burnout Total Score, MSPSS, Confrontive Coping, Distancing, Self-Control, Seeking Social Support, Accepting Responsibility, Escape-Avoidance, Planful Problem-Solving, and Positive Reappraisal) to the Dependent Variable (HABIT)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.535	.286	.140	5.01080

Table 10

Overall Regression Analysis with Predictor Variables (Burnout Total Score, MSPSS, Confrontive Coping, Distancing, Self-Control, Seeking Social Support, Accepting Responsibility, Escape-Avoidance, Planful Problem-Solving, and Positive Reappraisal) to the Dependent Variable (HABIT)

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	492.635	10	49.264	1.962	.059
Residual	1230.298	49	25.108		
Total	1722.933	59			

As shown in Table 11, the next multiple regression analysis examined the subscales of the MSPSS and Burnout Total score as predictors and HABIT score as the criterion.

Table 11

Mean and Standard Deviation of HABIT, Burnout Total Score, Significant Other Subscale, Family Subscale, and Friend Subscale

	Mean	Std. Deviation	N
HABIT	30.1333	5.40391	60
Burnout Total Score	70.0500	25.31458	60
Significant Other	2.6750	.48994	60
Subscale	3.3708	.59213	60
Family Subscale	3.0667	.74627	60
Friend Subscale			

Table 12 shows that the combination of predictors accounted for a substantial proportion of the variability on the criterion. The Multiple R equaled .98 and accounted for 96% of the variability on the HABIT. The R square change was significant.

Table 12

Model 1 Summary of the Predictor Variables (Burnout Total Score, Significant Other Subscale, Family Subscale, and Friend Subscale) to the Dependent Variable (HABIT)

Model	R	R Square	Adjusted R Square	Std. Error of Est	Change Statistics					Durbin-Watson
					R Square Change	F Change	df 1	df 2	Sig. F Change	
1	.981	.963	.961	1.07297	.963	360.387	4	55	.000	1.728

Table 13

Overall Regression Analysis with Predictor Variables (Burnout Total Score, Significant Other Subscale, Family Subscale, and Friend Subscale) to the Dependent Variable (HABIT)

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	1659.613	4	414.903	360.387	.000
Residual	63.320	55	1.151		
Total	1722.933	59			

Table 14

Coefficients of Predictor Variables (Burnout Total Score, Significant Other Subscale, Family Subscale, and Friend Subscale) to the Dependent Variable (HABIT)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	-2.280	1.177		-1.937	.058		
Burnout Total Score	.001	.006	.004	.151	.881	.775	1.291
Significant Other Subscale	4.134	.347	.375	11.904	.000	.674	1.484
Family Subscale	2.851	.270	.312	10.575	.000	.766	1.306
Friend Subscale	3.808	.256	.526	14.864	.000	.534	1.873

The overall regression equation was significantly different from chance, and the significant other, family, and friend subscales contributed significantly to the prediction of the HABIT (see Table 13). Tests of assumptions and multiple linear regression were achieved. The Durbin-Watson statistic was equal to 1.73 (see Table 12). According to Field (2009), the Durbin-Watson statistic tests for "serial correlations between errors in regression models" (p.785). Specifically, it tests whether or not "adjacent residuals are correlated, which is useful in assessing the assumption of independent errors" (p. 785). According to Field (2009), the Durbin-Watson statistic varies between 0 and 4, with a value of 2 indicating that the residuals are uncorrelated. This test reveals that the residuals are uncorrelated.

Collinearity.

The collinearity diagnostics revealed that for each of the predictor variables there was no evidence of multicollinearity (see Table 13). According to Field (2009), tolerance statistics "measure multicollinearity and are simply the reciprocal of the variance inflation factor… Values below 0.1 indicate serious problems," although he also suggests that values below 0.2 are values below which we should begin to worry (p. 795). None of the tolerance statistics in the present analysis met this criterion, suggesting multicollinearity is not a problem. Additionally, the variance inflation factor is also a measure of multicollinearity (Field, 2009). It measures whether or not a predictor has a "strong linear relationship with the other predictors" (Field, 2009, p. 796). According to Field (2009), values of 10 are indicative of problems in this area. These values ranged from 1.20 to 1.87, suggesting there also is no difficulty in this area. Further analysis of assumptions was conducted in accordance with Field (2009). HABIT scores were normally distributed. A plot of standardized residuals (ZRESID) against standardized predicted values (ZPRED) revealed that the assumptions of linearity and homoscedasticity were met. To test the normality of the residuals, an examination of a histogram and normal probability plot of the residuals was plotted. The histogram revealed that the assumption of normality has been met. Likewise, the normal probability plot examining observed cumulative percentages to expected cumulative percentages also support the assumption of normality.

Chapter 5

The following section will discuss the results of this study, along with the limitations, practical applications, and implications for future research. The first portion of the section will detail the results; in addition, it will discuss the hypotheses of this study and how the results compare with other research that has become available since beginning the current study. The remaining portions will discuss what the results of this study mean and possible future research endeavors.

The first hypothesis in this study predicted that PCPs who experienced a high level of burnout would exhibit poorer physical well-being, experience lower levels of perceived social support, and implement fewer coping mechanisms, compared with individuals who experienced a medium level and low level of burnout. In addition, PCPs who experienced a medium level of burnout would exhibit poorer physical well-being, experience lower levels of perceived social support, and implement fewer coping mechanisms, compared with individuals who had a low level of burnout. The sample of PCPs obtained in this research study consisted of 81.7% indicating that they experienced high levels of burnout; therefore, the first hypothesis was unable to be fully analyzed. Despite being unable to test the first hypothesis of this study due to the disproportionate number of participants in the three levels of burnout, the results from this study do offer both interesting and important information regarding the relationships that exist among burnout, health habits, and perceived social support.

The second hypothesis in this study hypothesized that male PCPs would report higher levels of depersonalization, and that female PCPs would report higher levels of

emotional exhaustion; the latter fact was found in prior research that cited these findings (Houkes, et al., 2011; Langballe, Innstrand, Aasland & Falkum, 2011). The results from this study were inconsistent with the findings in the literature. This study found that male PCPs reported experiencing higher levels of personal accomplishment, compared with their female PCP counterparts. This is an interesting finding because previous research conducted on gender and the domains of burnout found no difference between genders regarding personal accomplishment. Although this result does not support the original hypothesis, the findings should be researched further in order to obtain more information on whether or not the personal accomplishment domain is experienced differently by the two genders.

Admittedly, there may have been a self-selection bias operating; however, the high percentage of PCP burnout in this study is concerning because research has shown that physicians who suffer from burnout not only have poorer patient satisfaction and are less empathic, but they are also more prone to making medical errors (Wallace et al., 2009; Ratanawongsa et al., 2008; Halbesleben & Rathert, 2008). In addition, the reasons why such a large portion of the study sample endorsed experiencing high levels of burnout are cause for further investigation. Because the cause of PCP burnout was not the focus of this study, the causes of burnout in this sample can only be postulated. In collecting demographic data in this study, the results indicated that 36.7% of the PCPs in this study reported working in a private practice setting and 30% reported working in a group practice setting. Perhaps working in a private practice or group practice setting involves more responsibilities such as paperwork and dealing with insurance companies, which PCPs in other settings may not have to address; however, this is only a hypothesis

and would need further investigation. This study also found that 23.4% of the sample indicated spending between 10 and 12 hours on patient paperwork (i.e., patient notes, prescription refills, patient phone calls, etc.) per week. In addition, 13.3% of the sample indicated spending approximately 20 hours per week engaging in these tasks. Perhaps in other settings, PCPs do not dedicate as much time on these tasks due to support staff and as a result, may not experience such high levels of burnout, compared with the PCPs that participated in this study. However, this needs to be examined in greater depth in the future. Regardless of the possibility that PCPs who experience higher levels of burnout were more interested in this study, and thus decided to participate, the results from this study are nonetheless informative. With such high levels of burnout endorsed by PCPs in the sample, further investigation and research is required.

One significant finding from this study revealed that PCPs who reported experiencing high levels of burnout also reported engaging in fewer health habits. These results are consistent with a 2015 Medscape survey, which cited the fact that 46% of the physicians who endorsed experiencing burnout also endorsed poorer overall health (Peckham, 2015). Both the present study and the study published by Peckham (2015) suggest that there is a relationship between burnout and health behaviors. If 76% of physicians report treating themselves (Uallachain, 2007), coupled with the finding that PCPs who report high levels of burnout also report engaging in fewer adaptive health behaviors, this could suggest that PCPs who are burned out, could be treating themselves, could be engaging in fewer adaptive health behaviors, and ultimately are putting themselves at risk for poorer overall health. These findings are significant and require not only further research and investigation, but also the communication of this information to

physicians in order for them to have a better overall understanding of burnout and the impact, not only to their patients, but also to their own overall well-being.

Another significant finding from this study revealed that PCPs who rated higher perceived levels of social support also reported engaging in more healthy behaviors. These results suggest that PCPS who felt that they had more support from their friends, from significant others, and from family, reported engaging in more healthy behaviors. Unfortunately, the majority of the PCPs in this study continued to report being burned out, despite the fact that some engaged in adaptive health behaviors and perceived high levels of social support. This could be attributed to a variety of factors such as just dealing with too many work demands or simply not having high enough levels of engagement to impact their levels of burnout significantly.

These findings illustrate the fact that both social support and burnout are significant predictors of health habits. These results provide important information that could be helpful in developing ways that might possibly prevent the symptoms of burnout in the future. The literature has also consistently found that social support plays a crucial role in ameliorating the effects of burnout (Cobb, 1976; Cohen & Wills, 1985; Baruch-Feldman, Brondolo, Ben-Dayan, & Schwartz, 2002; Davis-Sacks, Jayaratne, & Chess, 1985; Halbesleben, 2006). In addition, the literature has found that when physicians maintained their own personal health, they were more likely to provide better overall patient care (Linn et al., 1986). The literature, coupled with the results of this study, suggest that educating PCPs about the association between positive health habits and high perceived social support could help to reduce the symptoms of burnout. As a result, when PCPs increase their adaptive health behaviors and utilize their positive social supports,

they could not only help reduce their own levels of burnout, but may also potentially provide better overall patient care. The last significant finding from this research study was the overwhelmingly high percentage of PCPs who endorsed high levels of burnout in the sample surveyed. Unfortunately, the results from this study are consistent with findings from the aforementioned Medscape survey, which cited a 16% increase in burnout incidences among internal medicine physicians and family medicine physicians from 2013 to 2015 (Peckham, 2015). It has been speculated that these data, indicating high levels of burnout in PCPs, are related to the fact that PCPs are the front line of care to patients. The Medscape survey additionally found that approximately 50% of PCPs indicated experiencing burnout (Peckham, 2015). These data are drastically lower than the percentage that was found in this research study; however, this could be attributable to self-selection because the survey's solicitation message reported that the study was interested in PCP burnout.

The results from this study revealed a negative correlation between total burnout score and the HABIT. This means that higher burnout is associated with engaging in fewer health behaviors. This suggests that when PCPs feel burned out, they are less likely to endorse engaging in adaptive health behaviors. The results from this study also revealed a positive correlation between the HABIT and perceived social support. This means that more perceived social support is associated with engaging in more adaptive health behaviors. This suggests that when PCPs have a higher level of perceived social support, from friends, family, and significant others, they report engaging in more health behaviors. Finding a link between health habits, burnout, and perceived social support is

a step toward having a better overall understanding of the complexity of burnout in the PCP community.

Limitations of Present Study

A major limitation of this study was that 81.7% of the sample reported experiencing high levels of burnout. As a result, conclusions regarding the possible factors that could prevent or alleviate burnout could not be examined. This study was unable to ascertain whether or not having high levels of perceived social support, positive coping mechanisms, and good health habits were correlated with the overall symptoms of burnout. The high percentage of PCPs endorsing high levels of burnout could possibly be attributed to the message that was used to solicit potential participants. When advertising the study, it was stated that the study was interested in examining burnout in PCPs. More studies should be conducted with larger sample sizes, without specifically indicating an interest in PCP burnout, in order to avoid having a highly saturated sample. Doing more research with this population will help the medical community view burnout from a different perspective and hopefully shift the focus from stigmatizing burnout to preventing the symptoms of burnout from occurring at all.

A second limitation of this study was that PCPs were the only group of physicians who were surveyed. There are many other physicians whom patients encounter who treat and manage their physical health, such as emergency medicine physicians, oncologists, and gastroenterologists. Being able to identify, treat, or possibly prevent burnout in all members of the medical community could have a significant impact on patient health and well-being. Other specialties such as surgeons, emergency medicine physicians, or

oncologists may experience different levels of burnout and could have different contributing factors, compared with PCPs. For example, perceived social support could have a significantly greater impact on burnout symptoms for emergency medicine physicians, making the results of this study less generalizable to the overall physician population.

A third limitation of this study is that participants were recruited through limited social media forums and online sites. Due to the recruitment procedures, all PCPs may not have had an equal chance to contribute to the study. Some PCPs may not have the particular social media forum access that was used in this study or may not spend a lot of time online. This suggests that future studies should target a broader range of social media forums and websites in order to recruit a greater number of participants. This will help to ensure that a more representative sample of physicians is obtained.

A fourth and final limitation of this study is the disproportionate representation of race among physicians. Because 78.3% of the sample consisted of individuals who identified as Caucasian, there was a significant underrepresentation of minority physicians who participated in this study. Individuals from different races could have different perspectives and different ways of dealing with burnout. For example, physicians who identify as Asian could experience and perceive burnout in a way that is completely different from a physician who identifies as African American. This suggests that having a more diverse sample would not only make the results of this study more generalizable, but it would also shed light on the experiences and on the ways that different races deal with burnout. In addition, studying different physician racial populations, as was done in a study completed by Montero-Marin, et al. (2016) in which

Hispanic physicians were used, could lead to more correlational research in order to establish whether or not different races experience or perceive burnout differently.

Practical Application of Results

This study has many practical applications for the medical field. Despite being unable to ascertain whether or not certain factors directly affect burnout, this study does shed light on an important association of the seriousness and significance of burnout. With 50% of medical students, 30% to 40% of physicians, and 81.7% of the PCPs in this study endorsing high levels of burnout, it is safe to state that burnout is a very serious and prevalent issue in the PCP population (Dyrbye et al., 2008; Wallace et al., 2009).

The results from this study revealed a link between health habits and burnout and a link between health habits and perceived social support. Because it was beyond the scope of this study, a clear relationship among all three of the variables could not be made; however, with further research, additional hypotheses regarding the relationship could be tested. For example, it would be interesting to examine whether or not increasing an individual's perceived social support (friends, family, and significant others) and his or her engagement in health habits, could also potentially decrease an individual's level of burnout.

Having a better and more concrete understanding of the possible variables that may help combat burnout would be extremely valuable in helping to prepare physicians for and possibly prevent the symptoms of burnout. In addition, educating medical students and residents about burnout, the symptoms, and possible mediating factors could

not only help reduce the level of burnout in future physicians, but could also potentially help decrease the number of physician suicides each year.

Furthermore, educating current physicians through continuing medical education (CME) credits could also be a practical application of this study. CME classes could offer physicians resources when they experience symptoms of burnout, suggest strategies to help reduce burnout, and instruct them on how to identify burnout symptoms among fellow physicians.

Finally, the information that was gleaned from this study can be used to help create intervention programs. It can be used as the focus of educational seminars for physicians in order to stress the importance of self-care and burnout prevention. In addition, having these educational seminars for physicians and presenting the results of this study could possibly help to shift the medical community's perspective on burnout and perhaps even equalize the difference in numbers of male physicians and female physicians among burnout sufferers; reports by Rabatin, et al. (2015) indicated that female physicians were twice as likely to report burnout, compared with male physicians (Rabatin, et al., 2015). The one major finding of this study is that the increase in perceived social support in PCPs is associated with increases in engagement in good health habits. Despite the limitations of this study, the results provide valuable information and a starting point to begin designing educational programs, such as CE workshops and of incorporating into medical students' curricula, information concerning the benefits of perceived social support and of practicing positive health behaviors in order to prevent and possibly alleviate burnout in the PCP community.

Implication for Future Research

Since the start of this study, there have been a few studies examining burnout in PCPs (Gregory & Menser, 2015; Rabatin, et al., 2015; Ramirez et al., 1995). One of the more recent studies, published in 2015, found that a PCP's workplace was a main factor in burnout (Gregory & Menser, 2015). They found that PCPs who felt that they had less control over workplace decisions, that their job demands exceeded their capacity and resources, and that their personal values contrasted with the values of the organization, had higher ratings of burnout (Gregory & Menser, 2015). This suggests that having a greater understanding of PCP practice settings, along with a better understanding of perceived workplace control, could add a more thorough understanding of the factors that contribute to burnout in PCPs. Another recent study conducted by Rabatin, et al. (2015) also found that a PCP's workplace was a major contributing factor in the development of burnout (Rabatin, et al., 2015). In light of this newer research, workplace climate and perceived workplace control are factors that should definitely be researched more fully in order to see whether or not these factors could be solely responsible for burnout or if these factors, in conjunction with the factors that were examined in this study, contribute to the development of burnout.

Another implication for future research is to use this study as the first step in beginning to study different physician specialties. By examining burnout in different physician specialties, the medical community will have a better overall understanding of the factors that are associated with burnout. It may be that all physicians experience the same few factors that contribute to burnout in the physician population. If that is the case, that information would contribute to the overall literature on physician burnout and

would be instrumental in establishing policies, procedures, and preventative measures to alleviate physician burnout. On the other hand, different physician specialties could experience burnout due to different factors. Whatever those factors may be, having that information would be extremely valuable and be instrumental in finding ways to try to alleviate the symptoms of burnout in those physicians whose practice involves specific medical specialties.

This study could also be a first step in studying medical students and residents and their experiences with burnout. Because research indicates that burnout tends to occur more frequently in younger physicians (Ramirez et al., 1995), it would be extremely informative to know more about the reasons for this and about the factors involved in order to prepare budding physicians for the signs and symptoms of burnout during their medical school years. By teaching medical students about how to identify burnout, about the factors that cause it and ways to decrease it, these future physicians will be well informed and be better prepared to take the necessary steps to prevent burnout in the future.

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